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ABSTRACT

This study sought to identify major factors of teaching evaluation as related to professors' overall teaching effectiveness. Undergraduate and graduate students at a university in the southeastern United States were asked to rate 126 business faculty through anonymous course evaluations. Students rated faculty on 12 specific items related to teaching performance; responded to 5 items about class standing, grade point average, reason for taking the course, attendance, and expected grade; and rated the instructor on overall teaching effectiveness. A total of 6,395 evaluations were collected and analyzed. The results of a multiple regression analysis demonstrated that 12 factors were predictors of overall teaching effectiveness, including: (1) instructor presents material clearly; (2) instructor answers students' questions; (3) instructor treats students in a courteous and professional manner; and (4) instructor appears to be well-prepared for class. These data suggest that students are fairly reasonable in considering important aspects of the learning process when they evaluate professors' overall teaching effectiveness. The results are discussed in light of the faculty reward system in place at U.S. universities, the balance between teaching and research, and the changes in management education. (Contains 40 references.) (MDM)

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Teaching Evaluation in the College of Business: Factors Related to the Overall Teaching Effectiveness

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Running head: TEACHING EVALUATION

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Abstract

About 3,200 undergraduate and 300 graduate students in the College of Business of a regional state university with more than 17,000 students located in the southeastern United States evaluated 126 business faculty. The results of a multiple regression based on 6,395 student evaluations show that 12 factors are predictors of overall teaching effectiveness, e.g., instructor presents material clearly, instructor answers students' questions, instructor treats students in a courteous and/or professional manner, and instructor appears to be well prepared for each class. These data suggest that students are fairly reasonable in considering important aspects of the learning process when they evaluate professors' overall teaching effectiveness. The results are discussed in light of the reward system at U.S. universities, the balance between teaching and research, and the changes in management education.

Teaching Evaluation in the College of Business: Factors Related to the Overall Teaching Effectiveness

For the past several decades, teaching evaluation has been examined by many researchers in the literature. Evaluation of teaching effectiveness will continue to be an interesting topic for faculty members, students, and researchers in the years to come (Basow & Silberg, 1987; Chowdhary, 1988; Fernandez, & Mateo, 1992; Gaski, 1987; McCallum, 1984; Marsh & Hocevar, 1991; Marsh, Touron, & Wheeler, 1985; Poonyakanok, Thisayakorn, & Digby, 1986; Romero, Bonilla, Trujillo, & Rodriguez, 1989; Snell, Mekies, Parimanath, & Green, 1992; Tang & Tang, 1987; Zoller, 1992).

Teaching effectiveness has been examined by researchers in many countries around the world. For example, based on a sample of university students in Spain, Fernandez and Mateo (1992) identified two major factors related to students' evaluation of university teaching quality: Teaching competence and motivational skills. Four factors have been identified using 2,785 students in a university in Thailand: Teaching method, teacher-student relationship, text and materials, and evaluation and feedback. It has been noted that a valid student evaluation of instructor instrument should contain the following factors: (1) organization and clarity of presentation, (2) teacher-student interaction or rapport, (3) communication skill, (4) workload or course difficulty, (5) fairness of grading and examinations, (6) student self-rated accomplishments, and (7) a global student rating (Brightman, Elliott, & Bhada, 1993; Centra, 1979).

Teaching evaluation seems to be an important topic. However, there are two important issues related to teaching effectiveness. The first issue is related to the accuracy of evaluations. Therefore, the major concern is related to the reliability and validity of the measuring instrument itself.

Most faculty members and administrators expressed a "great mistrust of student ratings" (Katz, 1973, p. 472). Gomez-Mejia and Balkin (1992) stated that "teaching ratings by students do not reflect true teaching performance; they are basically a popularity contest" (p. 947). Thereby, many people do not think that teaching evaluation is reliable and valid.

Baird (1987) has found that a considerably larger portion of rating variance can be explained by students' subjective assessment of learning than by actual course grades. Students' perceived learning correlated .88 with course evaluations and .86 with instructor evaluations. Baird further pointed out that the statistics were not reduced by partialling out the effects of anticipated letter grade, which preserved the idea that leniency or student characteristics could account for at least a small portion of the rating-grade effect.

Ikponmwosa (1986) found that students' evaluations of the instructors were not significantly influenced by knowledge of their grades. Thus, students can be expected to evaluate their instructors objectively. Marsh and Hocevar (1991) found that students' ratings of 6,024 classes by 195 teachers did not change significantly over the 13-year period. Based on these data, it

appears that students' evaluations of teach performance are very stable and consistent over time.

The second issue deals with the usefulness of teaching evaluation. That is, the extent to which the results of teaching evaluation will be used by administrators for personnel decisions (i.e., tenure, promotion, and merit pay). From the perspective of the reward and control systems in major universities, some of the questions a professor may ask are: What does it mean if I have high teaching effectiveness? Does it pay to be an effective professor in classrooms? Based on Vroom's (1964) valence-instrumentality-expectancy (VIE) theory of motivation, is teaching effectiveness instrumental in achieving a professor's career, financial, and personal goals?

It has been found that based on a sample of 134 administrators and 196 faculty members of six universities, administrators tended to have a strong emphasis that both research and teaching are important, while faculty members felt that they need to have particular strength in one or the other (Chamberlain & Tang, 1993; Tang & Chamberlain, 1993). There is no strong relationship between teaching and faculty pay (Ferber & Loeb, 1974). Thus, some may argue that there is very little financial incentive for excellence in teaching (Konrad & Pfeffer, 1990).

In an award-winning article, Gomez-Mejia and Balkin (1992) found that agency theory can be meaningfully used to analyze internal control relationships between allocators (principals) and those receiving allocations (agents). Using a sample of 353

management professors across 90 universities, they found that number of job changes produces the largest monetary gains. Further, the financial returns yielded by job changes tend to be greater for individuals with exceptional scholarly records, but it pays for faculty members to move regardless of the quality of their records. "The highest correlate of job moves is top-tier publications (.49), with teaching evaluations (.25), citations (.21), second-tier publications (.19), and books (.17) following far behind" (p. 940). Thus, the key argument here is that teaching effectiveness is not strongly rewarded by most universities and colleges, whereas research productivity is.

The present author asserts that both the measurement and instrumentality issues are highly related. It is possible that even with a reliable and valid system of student evaluation of teaching effectiveness, teaching effectiveness will not be recognized and treated seriously if the reward system is not present.

In the present study, the measurement issue, from students' perspective, will be examined. The purpose of the present study is to identify major factors of teaching evaluation as related to the professors' overall teaching effectiveness.

Method

Subjects

Data were collected in a Fall semester from about 3,200 undergraduate students and 300 graduate students taking courses in the College of Business at a regional state university with more than 17,000 students located in the southeastern United

States. These students rated 126 business faculty (110 full-time) in the following five departments: (1) Accounting, (2) Business Education, Marketing Education, and Office Management (BMOM), (3) Computer Information Systems, (4) Economics and Finance, and (5) Management and Marketing.

Students attending 114 courses during the evaluation period were asked to complete the teaching evaluations anonymously. Their confidentiality was assured. A total of 6,395 ratings was obtained. Ratings from students who took more than one course from different professors and who took more than one course from the same instructor were all included. Several professors may teach different sections of the same course.

Out of 6,345 completed evaluations (due to missing data), 341 were completed by freshman (5.4%), 903 by sophomore (14.2%), 1,690 by junior (26.6%), 2,719 by senior (42.9%), 602 by graduate students (9.5%), and 90 by others (1.4%). A total of 1,127 evaluations (17.5%) was completed by students who considered accounting as their home department, 782 (12.2%) by BMOM, 1,490 (23.2%) by Economics and Finance, 1,172 (18.2%) by Computer Information Systems, and 1,862 (28.9%) by Management and Marketing. In terms of students' current cumulative GPA, 62 (1.0%) reported below 2.00, 1,178 (18.7%) between 2.00 and 2.49, 2,219 (35.1%) between 2.50 and 2.99, 1,698 (26.9%) between 3.00 and 3.49, 854 (13.5) above 3.50, and 305 (4.8%) had no grades yet.

Further, 1,717 students (27.3%) expected to receive an A for the course, 2,615 (41.%%) a B, 1,651 (26.2%) a C, 274 (4.4%) a D,

and 34 (.5%) an F, and 6 (.1%) a passing grade. When asked the main reason for taking the course, 1,972 (31.3%) indicated that they took the course for general requirement, 651 (10.3%) interested in subject, 3,612 (57.2) course in major, 27 (.4%) easy course, and 48 (.8%) recommended by another student.

Measurement

The 17-item scale, student evaluation of faculty performance, has been adopted to evaluate all university faculty members in this university for several years. In the present study, students from all business classes were asked to rate their instructors using these 17 items and one additional item--the overall teaching effectiveness. A total of 18 items was involved.

First, 12 items examined students' evaluations of teaching performance (please see Table 1). A 5-point rating scale was used with almost always (1), usually (2), rarely (3), never (4), and not applicable (5) as anchors. Second, five (5) additional items related students' class status (freshman, sophomore, junior, senior, graduate, and other), cumulative GPA (below 2.00, 2.00 to 2.49, 2.50 to 2.99, 3.00 to 3.49, above 3.49, none yet), expected grade (A, B, C, D, F; pass, fail), reason for taking the course (general requirement, interested in subject, course in major, easy course, and recommended by another student), and class missed (0 to 3, 4 to 7, 8 to 15, more than 15, and went only for exams) were included.

Finally, all students were asked to rate the overall performance of the instructor in this course using a 5-point

scale with outstanding, above average, average, below average, and poor as anchors. These items appear to cover the important factors related to the evaluation of teaching effectiveness as suggested in the literature (e.g., Centra, 1979).

Results

Table 1 shows the means and standard deviations of 12 teaching evaluation ratings and the overall effectiveness measure. The correlations of variables are presented in Table 2. Further, all 17 items were used to predict faculty member's overall teaching effectiveness using multiple regression analysis based on a sample of 5,393 students in the College of Business (please see Table 3).

Insert Tables 1, 2, and 3 about here

Table 3 shows that the R Square of the regression analysis was .6712. Twelve items were significantly related to the overall effectiveness rating. Therefore, 67.12 percent of the variance can be explained by these 12 items in the teaching evaluations.

The most important predictors were instructor presents material clearly, instructor answers students' questions, treats students in a courteous and/or professional manner, and instructor appears to be well prepared for each class. Moreover, the students' expected grade for the course, the clarity of grading criteria, assignments are reported within a reasonable amount of time, instructor is accessible to talk with students

outside of class, class sessions are relevant to course subject matter, classes students have missed, course requirements are clear, and classes end on time were all predictors of overall teaching effectiveness.

Discussion

The results of the present study show that instructor presents material clearly, instructor answers students' questions, instructor treats students in a courteous and/or professional manner, and instructor appears to be well prepared for each class are the most important predictors of overall teaching effectiveness. These items are similar to the factors identified in previous studies such as organization and clarity of presentation, communication skill, teacher-student interaction or rapport, fairness of grading and examinations, and students' self-rated accomplishments (Brightman et al., 1993; Centra, 1979). Based on these results, it appears that students can use fairly objective and reasonable constructs in evaluating instructors.

Many have argued that teaching evaluations by students are not true reflections of teaching performance; they are basically a popularity contest (Gomez-Mejia & Balkin, 1992). Therefore, teaching evaluations seem to reflect students' satisfaction with the instructor.

It has been reported that as the economy beyond the campus gates shrinks and, with it, career opportunities for business majors. Therefore, many business schools that expanded their programs in the 1980s have experienced a significant drop of

enrollments in management programs. This downturn reverses a 30-year trend that peaked in 1990 when 250,000 diplomas in business fields were granted (Tooley, 1993). In order to be competitive in the educational market, many universities need to have many satisfied customers (i.e., students) to survive. Therefore, we can not ignore the importance of teaching evaluations.

The present data show that many of these items of teaching effectiveness reflect teaching behaviors that are under instructors' control. Therefore, professors need to be aware of the contents of their course materials, the context of teaching the course materials, and the students who receive knowledge, skills, and information in the teaching process. Both the means, i.e., the process of teaching the materials (the procedural justice) and the ends, i.e., the materials learned, final grades, etc. (the distributive justice) are important in student learning (cf. Greenberg, 1987). Based on results of the present study, professors should feel comfortable using this teaching evaluation instrument.

It should be pointed out that at the institution where the present data were collected, only the overall teaching effectiveness is used by evaluators (i.e., department chairperson, peer evaluation committee, and administrators) for personnel decisions (i.e., tenure, promotion, merit pay, etc). Obviously, many professors receive tremendous amount of intrinsic satisfaction teaching courses at the college level. A raving evaluation from students is simply an extra pat on the back. However, professors who seek to receive extrinsic rewards (e.g.,

tenure, promotion, merit pay, etc.) need to focus on factors that are related to overall teaching effectiveness, because these factors may be related to the reward/control systems at major universities. More specifically, for those who want to improve their teaching effectiveness, they may focus on many of these significant items suggested in the present investigation in order to receive raving evaluations.

Teaching, research, university services, and community services are the key missions of university professors. Are faculty members paid according to their levels of performance? Are faculty members rewarded based on their excellence in teaching or research? Answers to these questions may have significant impacts on faculty members' allocation of personal time and effort in an academic setting (cf. Reskin, 1977).

Research shows that the relationship between teaching and financial rewards is weak. Stenstrom (1991) pointed out that "teaching is generally given low priority--very low priority--in our established system of values" (p. 4). Although empirical studies suggest that teaching actually may be more influential than perceptions might indicate (Kasten, 1984), the general perception is that teaching counts significantly less than does research (Schultz, Meade, & Khurana, 1989) and receives less weight in tenure decisions than it should.

Kerr (1975) stated that our society "hopes" that professors will not neglect their teaching responsibilities but "rewards" them almost entirely for research and publications. In fact, professors with publication-oriented resumes usually will be well

received at other universities. As mentioned earlier, the primary determinants of management faculty pay are the number of top-tier journal publications a faculty member has authored and changes in institutional affiliation (Gomez-Mejia & Balkin, 1992).

On the other hand, teaching credentials which are harder to document and quantify are much less transferable. The reality is that, according to J. Dennis Huston of Rice University, the 1989 Professor of the year, named by the Carnegie Foundation for the Advancement of Teaching, "teaching doesn't bring one job offers; publishing a book does" (Toch, 1990, p. 12). The major consequences are that excellent professors continue to be "locals" or "provincials" and forever be condemned to lower salary structures than the "nationals" who engage in marketable activity (Van Fleet, 1994).

In a recent 1991 issue of America's Best Colleges published by U.S. News & World Report, there was a real world story concerning the balance (or conflict) between publication and teaching at University of California at Irvine. Frank Cannonito, a professor of mathematics at UC, was denied a promotion and pay raise in 1989 due to the lack of sufficient publications. The professor also claimed that "because of his failure as a researcher his teaching load was increased by 75 percent" (Toch, 1990, p. 10).

"That teaching is a college professor's primary role--rather than something meted out in a disciplinary action--would seem axiomatic. In reality, however, the venerable dictum 'publish or

perish' has become the virtual rule of law on many U.S. campuses, where research, not performance in the classroom, is the overwhelming factor in determining a professor's status and salary" (Toch, 1990, p. 10). As a consequence, university professors may concentrate on research, even if to the detriment of teaching and at the expense of their students. Erich Bloch, former director of the National Science Foundation, stated: "In the past, the emphasis was on research and teaching. Today, it is on research and research" (Toch, 1990, p. 10).

Due to the need to publish and find publication outlets, the number of science journals alone increased from 8,062 in 1978 to 37,683 in 1988 (Toch, 1990). On one hand, professors in the U.S. have been very prolific in producing research findings and discoveries. Research in the U.S. is second to none. On the other hand, it is plausible that professors in higher education may have failed to upgrade the quality of research and scholarship but rather have created a massively wasteful academic publishing industry.

Moreover, the effectiveness of self-regulation in the academic profession concerning the enforcement of standards and ethical principles for the conduct of research has been challenged (Braxton, 1994; Braxton & Bayer, 1994). For the past two decades, many cases of scientific misconduct (e.g., Baltimore, Bruening, Benvenista, Borer, Darsee, Slutsky, Stricker, and Summerlin) have been the focus of attention by the scientific community and the lay public (Braxton, 1994). A study by the National Science Foundation (Office of Inspector General,

1990) found that about 20 percent of the scientists say that they have directly encountered fraud.

In a national sample of 311 tenured biochemists in U.S. universities, Braxton and Bayer (1994) found that a professor with high intraprofessional status (i.e., publication productivity and prestige of academic department) has favorable attitudes toward taking action for scientific misconduct. Further, with greater perceived institutional pressure for receiving external grant monies, a professor is to be inclined toward avoiding action that would stigmatize her or him as a whistleblower. It is plausible that differnt forms of external pressure may have been some of the causes of research misconduct. It has been suggested that individual scientists, universities, professional associations, journals, government agencies, and private foundations are all responsible for detecting and deterring scientific wrongdoing (Chubin, 1983).

In order to correct this, desirable teaching effectiveness needs to be rewarded (Kerr, 1975). Stanford University's Donald Kennedy declared bluntly that "junior faculty who show outstanding teaching ability fail at the tenure line too often, to the dismay of students who understandably wonder about Stanford's values. It is time to reaffirm that education--that is, teaching in all its forms--is the primary task" (p. 10). David Gardner, the outgoing president of the UC system, decreed that teaching and research will have equal status in pay and promotion within the top ranks of full professorships and that

peer review will be added to teacher evaluations throughout the system (Toch & Wagner, 1992).

In 1990, the Carnegie Foundation for the Advancement of Teaching issued a report arguing that the definition of scholarship be expanded to include teaching as a way of achieving such a balance (Mooney, 1992). More recently, many institutions are considering a more balanced route between instruction (teaching) and scholarship (research) to tenure university professors. Some schools, such as Ohio State and Boston College, have created "teaching centers" to improve the quality of instruction of their campuses.

Van Fleet (1994) has suggested that a peer review infrastructure should be created to support the awarding of tenure based on teaching. Further, the two following critical components must be present in the evaluation of teaching effectiveness: Independence of review and high standards relative to others in the field. These two important criteria are very similar to those used for publishing articles in a journal: Evaluated by external journal reviewers and high quality as reflected in acceptance/rejection rates.

In order to achieve true market value for teaching effectiveness, "professional associations must create mechanisms for performing such external evaluations" (Van Fleet, 1994, p. 81). That is, "to establish currency for teaching in the academic marketplace, an infrastructure as closely parallel to the one that already exists for research must be created" (p. 83).

Further, management professors also need to be aware of the fact that management education is under close scrutiny and criticism for being irrelevant (Ford, 1994). A strong link between theory and practice is needed. Further, academicians need to teach not only theoretical knowledge of functional specialities but also pragmatic capabilities or operational knowledge, e.g., creativity, people skills, aptitude for teamwork, and the ability to write and speak clearly and concisely (The Christian Science Monitor, 1991).

Moreover, current methods of management education will not provide the education necessary for managers of the 21st century. Management professors have to re-examine the assumptions that undergird our success. Major changes in management education may also include changes in curriculum (e.g., international business, technology management, and interdisciplinary study), pedagogy (e.g., computer simulations, field studies, mentors, etc.), and operational education (Porter & McKibbin, 1988). These changes deal with not only for what we teach, but how we teach it.

With major changes in these directions, it is expected that the measurement of teaching effectiveness will be changed dramatically in the future. Further, teaching evaluations will be valued highly and taken seriously by university professors in the future if the reward system is in place. Although the present author has not examined all these issues and variables in examining the students' evaluation of teaching effectiveness, future research should incorporate these variables in a more comprehensive model of teaching and research in higher education.

References

Baird, J. S. (1987). Perceived learning in relation to student evaluation of university instruction. Journal of Educational Psychology, 79 (1), 90-91.

Basow, S. A., & Silberg, N. T. (1987). Student evaluations of college professors: Are female and male professors rated differently? Journal of Educational Psychology, 79 (3), 308-314.

Braxton, J. M. (1994). Introduction (Special issue--Perspectives on research misconduct). Journal of Higher Education, 65, 239-241.

Braxton, J. M., & Bayer, A. E. (1994). Perceptions of research misconduct and an analysis of their correlates. Journal of Higher Education, 65, 351-372.

Brightman, H. J., Elliott, M. L., & Bhada, Y. (1993). Increasing the effectiveness of student evaluation of instructor data through a factor score comparative report. Decision Sciences, 24 (1), 192-199.

Centra, J. (1979). Determining faculty effectiveness. San Francisco, CA: Jossey-Bass, Inc.

Chamberlain, M., & Tang, T. L. P. (1993, March). Perceptual differences between administrators and faculty members on the importance of teaching and research. Paper presented at the 39th Annual Meeting of the Southeastern Psychological Association, Atlanta, GA. (ERIC Document Reproduction Services ED 358 761).

The Christian Science Monitor (1991, November 1). Business schools rethink focus, 8.

Chowdhary, U. (1988). Instructor's attire as a biasing factor in students' ratings of an instructor. Clothing and Textiles Research Journal, 6 (2), 17-22.

Chubin, D. E. (1983). Misconduct in research: An issue of science policy and practice. Minerva, 23, 175-202.

Ferber, M. A., Loeb, J. W. (1974). Professors, performance and reward. Industrial Relations, 13, 69-77.

Fernandez, J., & Mateo, M. A. (1992). Student evaluation of university teaching quality: Analysis of a questionnaire for a sample of university students in Spain. Educational and Psychological Measurement, 52 (3), 675-686.

Ford, J. D. (1994). Management education: Shifting our assumptions. Journal of Management Education, 18, 212-226.

Gaski, J. F. (1987). On "construct validity of measures of college teaching effectiveness". Journal of Educational Psychology, 79 (3), 326-330.

Gomez-Mejia, L. R., & Balkin, D. B. (1992). Determinants of faculty pay: An agency theory perspective. Academy of Management Journal, 35 (5), 921-955.

Ikponmwosa, O. S. H. (1986). Knowledge of grades ands students' rating of the instructor. Indian Journal of Psychometry and Education, 17 (1-2), 47-52.

Kasten, K. L. (1984). Tenure and merit pay as rewards for research, teaching, and service at a research university. Journal of Higher Education, 55, 500-513.

Katz, D. A. (1973). Faculty salaries, promotions and productivity at a large university. American Economic Review, 63, 469-477.

Kerr, S. (1975). On the folly of rewarding A, while hoping for B. Academy of Management Journal, 18, 769-783.

Konrad, A. M., & Pfeffer, J. (1990). Do you get what you deserve? Factors affecting the relationship between productivity and pay. Administrative Science Quarterly, 35, 258-285.

McCallum, L. W. (1984). A meta-analysis of course evaluation data and its use in the tenure decision. Research in Higher Education, 21, 150-158.

Marsh, H. W., & Hocevar, D. (1991). Students' evaluations of teaching effectiveness: The stability of mean ratings of the same teachers over a 13-year period. Teaching and Teacher Education, 7 (4), 303-314.

Marsh, H. W., Touron, J., & Wheeler, B. (1985). Students' evaluations of university instructors: The applicability of American instruments in a Spanish setting. Teaching and Teacher Education, 1 (2), 123-138.

Mooney, C. J. (1992, March 25). Syracuse tries to involve others in teaching-vs.-research debate. Chronicle of Higher Education, pp. A16-A17.

Office of Inspector General. (1990). Survey data on the extent of misconduct in science and engineering. Washington, DC: National Science Foundation.

Poonyakanok, P., Thisayakorn, N., & Digby, P. W. (1986). Student evaluation of teacher performance: Some initial research findings from Thailand. Teaching and Teacher Education, 2 (2), 145-154.

Porter, L., & McKibbin, L. (1988). Management education and development: Drift or thrust into the 21st century. New York: McGraw-Hill.

Reskin, B. F. (1977). Scientific productivity and the reward structure of science. American Sociological Review, 42, 591-604.

Romero, J., & Bonilla, M. P., Trujillo, D. A., & Rodriguez, M. (1989). Una alternativa en la evaluacion docente. (An alternative in the evaluation of teaching.) Revista Intercontinental de Psicologia y Education, 2 (1-2), 293-307.

Schultz, J. J., Meade, J. A., & Khurana, I. (1989). The changing roles of teaching, research, and service in the promotion and tenure decisions for accounting faculty. Issues in Accounting Education, 4, 109-119.

Snell, J. C., Mekies, S., Parimanath, A., & Green, D. W. (1992). Snell Educator Effectiveness Index: An instrument for faculty evaluation by students. Journal of Instructional Psychology, 19 (4), 286-190.

Stenstrom, R. C. (1991). Teaching, research, and promotion--Is science education in decay? Journal of Geological Education, 39, 4-5.

Tang, T. L. P., & Chamberlain, M. (1993, April). Administrators

and faculty's perceptions on teaching and research: Factor analysis. Paper presented at the 39th Annual Convention of the Southwestern Psychological Association, Corpus Christi, TX.

Tang, T. L. P., & Tang, T. L. N. (1987). A correlation study of students' evaluations of faculty performance and their self-ratings in an instructional setting. College Student Journal, 21 (1), 90-97.

Toch, T. (1990). A return to teaching? America's best colleges. Washington, DC: U.S. News & World Report.

Toch, T., & Wagner, B. (1992). Improving productivity. America's best colleges. Washington, DC: U.S. News & World Report.

Tooley, J. A. (1993). From boom to bust. America's best colleges. Washington, DC: U.S. News & World Report.

Van Fleet, D. D. (1994). Instruction, scholarship, and tenure. Journal of Management Education, 18, 77-85.

Vroom, V. H. (1964). Work and motivation. New York: Wiley.

Zoller, U. (1992). Faculty teaching performance evaluation in higher science education: Issues and implications (a "cross-cultural" study). Science Education, 76 (6), 673-684.

Table 1

Means and Standard Deviations of Variables

Variables	M	SD
1. Well prepared for each class	1.33	.58
2. Answers student's questions effectively	1.65	.77
3. Presents material clearly	1.73	.79
4. Accessible to talk with students on course matters outside of class	1.75	1.11
5. Relevant to course subject matter	1.34	.59
6. Course requirements are clear	1.41	.66
7. Grading criteria for the course as a whole are clear	1.45	.69
8. Exam results are reported within a reasonable amount of time	1.33	.64
9. Assignments results are reported within a reasonable amount of time	1.73	1.23
10. Treats students in a courteous and/or professional manner	1.39	.65
11. The class begins at scheduled times	1.22	.49
12. The class usually ends (on time, early, late)	1.21	.55
13. Overall Effectiveness	2.16	1.01

Note. N varies between 5636 and 6395.

Table 2

Correlations of Variables

Variables	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Prep.	56	57	26	54	50	43	38	25	44	38	16	07	00	09	-02	02	58
2. Answers		73	34	47	52	48	29	24	58	31	15	-02	-00	19	-03	06	72
3. Presents			33	53	57	51	30	25	52	32	18	-03	-00	25	-03	06	74
4. Accessible				26	27	27	20	26	31	20	07	-02	03	09	-01	02	36
5. Relevant					51	44	35	24	42	33	12	05	-01	11	-01	04	52
6. Requirements						70	35	25	47	33	15	06	-02	18	-03	04	57
7. Grading							38	25	46	31	13	03	-03	20	-02	04	55
8. Exam								38	33	29	08	05	-05	10	02	01	34
9. Assignments									23	19	10	05	03	07	03	03	29
10. Treats										37	12	03	-03	15	-00	02	58
11. Begins											18	01	-01	09	-02	05	33
12. Ends												01	03	05	03	-00	17
13. Status													11	-19	-07	-12	-01
14. GPA														-32	-04	-15	-03
15. Grade															-01	17	27
16. Reason																00	-03
17. Missed																	09
18. Overall																	

Note. See Tables 1 and 2 for variable names. All decimals have been omitted for correlations. If $r = .02$, $p < .05$. N varies between 5,548 and 6,395.

Table 3

Regression Analysis

Variables	Parameter Estimate	Standard Error	T	p
1. Prepared	.206	.019	10.74	.0001
2. Answers	.303	.017	18.27	.0001
3. Presents	.383	.016	23.38	.0001
4. Accessible	.038	.008	4.95	.0001
5. Relevant	.080	.018	4.51	.0001
6. Requirements	.055	.019	2.95	.0032
7. Grading	.106	.017	6.21	.0001
8. Exam	.004	.015	.32	.7517
9. Assignments	.037	.007	5.28	.0001
10. Treats	.201	.016	12.55	.0001
11. Begins	-.017	.018	-.93	.3550
12. Ends	.034	.015	2.29	.0219
13. Status	-.007	.008	-.88	.3797
14. GPA	.009	.008	1.19	.2356
15. Grade	.100	.010	9.94	.0001
16. Reason	-.010	.008	-1.21	.2277
17. Missed	.056	.018	3.05	.0023
18. Intercep	-.325	.062	-5.25	.0001

R Square = .6712

F (17, 5,376) = 645.53, p = .0001.

Note. N = 5393.